

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

Claims 1-8 (canceled).

Claim 9 (currently amended): A stably transfected cell line comprising: i) a DNA expression vector comprising a first DNA sequence encoding a first protein having a detectable signal, one or more 3' UTR sequence and one or more expression control sequence operatively associated with said first DNA sequence, and a heterologous instability sequence DNA that is heterologous to the 3'UTR sequence, said instability sequence DNA comprising a second DNA sequence corresponding to one or more mRNA instability sequence which is from one or more naturally occurring gene sequences; and ii) a control DNA expression vector comprising a control DNA sequence encoding a second protein having a detectable signal, and one or more 3' UTR sequence and one or more expression control sequence operatively associated with said control DNA sequence, wherein said cell line is used for screening compounds which affect mRNA stability, wherein said heterologous instability sequence DNA is from about 200 to about 1500 nucleotides in length and comprises DNA corresponding to sequences that flank said mRNA instability sequence in the naturally occurring gene.

Claim 10 (withdrawn): A method of screening for one or more compound which affect mRNA stability comprising the steps of: i) providing a DNA expression vector, which in the absence of a test compound is capable of expressing a protein having a detectable signal, wherein the mRNA which is transcribed from said expression vector and encodes said protein comprises at least one copy of a heterologous mRNA instability sequence; (ii) contacting said DNA expression vector with at least one test compound under conditions whereby, in the absence of the test compound, said DNA expression system is capable of expressing said protein having a detectable signal; (iii) measuring said detectable signal from said first protein expressed from said DNA expression vector; (iii) measuring said detectable signal from said second protein expressed from said control DNA

expression vector; and (iv) comparing the measured detectable signal from said first protein with a control wherein a decrease in the measured detectable signal compared to said control indicates a compound that decreases mRNA stability and an increase in the measured detectable signal compared to said control indicates a compound that increases mRNA stability.

Claims 11-12 (canceled)

Claim 13 (withdrawn): The method according to claim 10, wherein said compounds are being screened for their ability to induce mRNA degradation, and wherein a decrease in the measured detectable signal compared to said control indicates a compound that induces mRNA degradation.

Claim 14 (withdrawn): A method for comparing the extent of mRNA degradation induced by two or more compounds comprising the steps of: (i) providing a DNA expression vector, which in the absence of a test compound is capable of expressing a protein having a detectable signal, wherein the mRNA which is transcribed from said expression vector and encodes said protein comprises at least one copy of a heterologous mRNA instability sequence; (ii) contacting said DNA expression vector separately with two or more test compounds under conditions whereby, in the absence of the test compounds, said DNA expression system is capable of expressing said protein having a detectable signal; (iii) measuring said detectable signal in the presence of each test compound; and (iv) comparing the measured detectable signals; wherein a lower measured detectable signal indicates a greater extent of mRNA degradation.

Claim 15 (previously presented): An assay system for screening for compounds which affect mRNA stability comprising a stably transfected cell line according to claim 9 and a test compound.

Claims 16-23 (canceled).

Claim 24 (previously presented): A stably transfected cell line according to claim 9, wherein said heterologous instability sequence DNA is inserted into said 3' UTR sequence.

Claim 25 (cancelled).

Claim 26 (cancelled).

Claim 27 (previously presented): A stably transfected cell line according to claim 9, wherein said heterologous instability sequence DNA comprises DNA corresponding to the whole, or a substantial part, of the 3' UTR from said naturally occurring genes.

Claim 28 (previously presented): A stably transfected cell line according to claim 9, wherein said heterologous sequence DNA comprises DNA corresponding to one or more CRD from the coding region of said naturally occurring genes.

Claim 29 (previously presented): A stably transfected cell line according to claim 9, wherein said one or more naturally occurring genes is selected from the group consisting of a gene encoding a cytokine, a gene encoding a chemokine, a gene encoding a nuclear transcription factor, a gene encoding an oxygenase, a proto-oncogene, an immediate early gene, a cell cycle controlling gene, and a gene involved in apoptosis.

Claim 30 (currently amended): A set of stably transfected cell lines comprising: (i) a stably transfected cell line comprising a DNA expression vector comprising a first DNA sequence encoding a first protein having a detectable signal, one or more 3' UTR sequence and one or more expression control sequence operatively associated with said first DNA sequence, and a heterologous instability sequence DNA that is heterologous to the 3'UTR sequence, said instability sequence DNA comprising a second DNA sequence corresponding to one or more mRNA instability sequence which is from one or more naturally occurring gene sequences; and (ii) a stably transfected cell line comprising a control DNA expression vector comprising a control DNA sequence encoding

a second protein having a detectable signal, and one or more 3' UTR sequence and one or more expression control sequence operatively associated with said control DNA sequence, wherein said set of cell lines is used for screening compounds which affect mRNA stability, wherein said heterologous instability sequence DNA is from about 200 to about 1500 nucleotides in length and comprises DNA corresponding to sequences that flank said mRNA instability sequence in the naturally occurring gene.

Claim 31 (previously presented): A set of stably transfected cell lines according to claim 30, wherein said first and second proteins are the same protein.

Claim 32 (cancelled).

Claim 33 (cancelled).

Claim 34 (previously presented): A set of stably transfected cell lines according to claim 30, wherein said heterologous instability sequence DNA in the stably transfected cell line of (i) comprises DNA corresponding to the whole, or a substantial part, of the 3' UTR from said naturally occurring genes.

Claim 35 (previously presented): A set of stably transfected cell lines according to claim 30, wherein said heterologous instability sequence DNA in the stably transfected cell line of (i) comprises DNA corresponding one or more CRD from the coding region of said naturally occurring genes.

Claim 36 (previously presented): A set of stably transfected cell lines according to claim 30, wherein said one or more naturally occurring genes from which said second DNA sequence corresponding to one or more mRNA instability sequence in the stably transfected cell line of (i) is selected from the group consisting of a gene encoding a cytokine, a gene encoding a chemokine, a

gene encoding a nuclear transcription factor, a gene encoding an oxygenase, a proto-oncogene, an immediate early gene, a cell cycle controlling gene, and a gene involved in apoptosis.

Claim 37 (canceled).

Claim 38 (previously presented): A set of stably transfected cell lines according to claim 30, wherein said heterologous instability sequence DNA is inserted into said 3' UTR sequence in said DNA expression vector.

Claim 39 (previously presented): An assay system for screening for compounds which affect mRNA stability, comprising a set of stably transfected cell lines according to claim 30 and a test compound.

Claim 40 (previously presented): A stably transfected cell line according to claim 9, wherein the cell line is of the native cell type in which said mRNA instability sequence is produced.

Claim 41 (previously presented): A stably transfected cell line according to claim 9, wherein said cell line is used for high throughput screening of compounds which affect mRNA stability.

Claim 42 (previously presented): A stably transfected cell line according to claim 9, wherein said detectable signal is produced directly.

Claim 43 (previously presented): A stably transfected cell line according to claim 9, wherein said mRNA instability sequence is from the gene coding for IL-1 β .

Claim 44 (previously presented): A stably transfected cell line according to claim 9, wherein said mRNA instability sequence is from the gene coding for APP.

Claim 45 (previously presented): A stably transfected cell line according to claim 9, wherein said mRNA instability sequence is from the gene coding for bcl-2 α .

Claim 46 (previously presented): A stably transfected cell line according to claim 9, wherein said mRNA instability sequence is from the gene coding for c-myc.

Claim 47 (previously presented): A stably transfected cell line according to claim 9, wherein said mRNA instability sequence is from the gene coding for TNF- α .

Claim 48 (previously presented): A stably transfected cell line according to claim 9, wherein said mRNA instability sequence is from the gene coding for VEGF.

Claim 49 (previously presented): A stably transfected cell line according to claim 9, wherein said mRNA instability sequence contains two or more ARE.